REMARKS

The following remarks are submitted in response to the Office Action mailed March 9, 2006. Claims 1, 3, 5-6, 9-12, 15-16, 19-24 and 26-30 (of which claims 1, 11, 20 and 28 are independent) are pending in this application. After a careful review of the cited references, Applicants request favorable reconsideration in view of the following remarks.

I. Examiner Interview Summary

Applicants thank the Examiner for the telephonic interview on June 6, 2006, at 11:00 am (EDT). Prior to the interview, on June 1, 2006, Applicants submitted an Applicant Initiated Interview Request Form, Form PTOL-413A, indicating that Applicants desired to discuss the main pending rejection of the present claims based on the Rudrapatna and Smith references.

During the telephone interview, Applicants discussed the rejections of these claims (namely, claims 1, 3, 5-12 and 15-27) and the Examiner's comments within the present Office Action pertaining to these claim rejections. In particular, Applicants argued that the references cited did not teach "selecting the one of the plurality of antennas based on a geographic proximity to the receiver," as in claim 1.

During the telephone call, the Examiner indicated the Examiner would take notes during the call pertaining to the Applicants' concerns and review the notes when reviewing the next response submitted. Applicants indicated that it would be very helpful to Applicants to facilitate preparation of a response if the Examiner could more fully explain some of the claim rejections, specifically with regard to the claim term "geographic proximity," in claim 1. In response, the Examiner stated that the Examiner's citations to the references were correct and anticipated the present claims. The Examiner asked Applicants to put their concerns and arguments within the next response, and ended the telephone conversation.

II. Response to Rejection of Claims 1, 3, 5-12 and 15-27

Claims 1, 3, 5-12 and 15-27 were rejected under 35 U.S.C. § 103(a) as being unpatentable over Rudrapatna, U.S. Patent Application Publication No. US 2002/0132600 (Rudrapatna) in view of Smith et al., U.S. Patent No. 6,006,075 (Smith). To establish a *prima facie* case of obviousness under § 103, the cited references must teach or suggest all the claim limitations. (MPEP § 2142).

A. Claims 1, 3, 5-6, 9-12, 15-16 and 19

Claim 1 has been amended to include the language within claims 7-8, and claim 11 has been amended to include the language within claims 17-18. Claim 1 recites the following limitation which Applicants submit is not taught or suggested by the combination of Rudrapatna and Smith: "identifying one of the plurality of antennas to transmit the wireless signal ... based on a geographic proximity to the receiver [by] (i) calculating a distance between each one of the plurality of antennas and the receiver thereby establishing a set of distances, and (ii) selecting one of the plurality of antennas corresponding to the smallest distance among the set of distances." Claim 11 includes similar language.

The Examiner asserted that Rudrapatna in view of Smith teaches all the claim limitations of claims 7-8 and 17-18 (which have been incorporated into claims 1 and 11) and stated that Rudrapatna teaches "calculating a distance ... (see for example, ¶[0031], lines 1-25)," and further that Smith teaches selecting one of the antennas corresponding to the smallest distance "(see, for example, column 7, lines 19-29, the communication formed based on signal strength and established distance, Figures 7-8, and detailed information, column 12, lines 9-67 continues to column 13, lines 1-16)." (Office Action, p. 12 and 14). Applicants fully disagree.

The sections cited by the Examiner within Rudrapatna (specifically ¶[0031]) discuss that a second group of antennas is positioned with respect to a first group such that signals from antennas in the second group are uncorrelated with signals from antennas in the first group. Accordingly, the second group of antennas is located a distance of 10λ from the first group. In this manner, the first group can perform beam forming/steering while the second group performs MIMO (or diversity) operations. This section does not teach "*calculating* a distance between each one of the plurality of antennas and the *receiver* thereby establishing a set of distances," as in claim 1 and similarly in claim 11. Rather, this section teaches placing antennas a certain distance apart from one another. Rudrapatna reiterates this notion by stating that the distance between the antenna groups is not limited to 10λ; but that other distances (e.g., 5λ, 6λ, 15λ) may be used to achieve de-correlation between signals from the different groups based on propagation environment. (¶[0031], lines 18-22).

In fact, Rudrapatna does not contemplate calculating a distance between any antennas in the same context as the present claims. Rudrapatna is directed toward an antenna array comprising two antenna groups where each group comprises two pairs of antennas that selectively operate in either a MIMO mode, a beam forming/steering mode, a diversity mode or any combination thereof. A first group of antennas is positioned with respect to a second group of antennas such that there is relatively low correlation or no correlation between signals to be transmitted (or being received) by any one of the antennas from different groups. The groups are configured and are positioned with respect to each other such that any group operates either in the MIMO, beam forming/steering or diversity modes or such that the groups operate in any combination of the three modes. (¶[0015]). Thus, the sections cited by the Examiner from Rudrapatna teach the positioning of the antennas with respect to *each other*, and have nothing to

do with "calculating a distance **between** each one of the plurality of **antennas** and the **receiver**," as in claim 1 and similarly in claim 11. Rudrapatna does not teach or suggest calculating the distance as recited in the present claims.

Next, the sections cited by the Examiner within Smith (column 7, lines 19-29) discuss that receiver circuitry receives "uplink" signals transmitted to the communication station from the remote communication devices, which include mobile subscriber units. This has nothing to do with selecting "one of the plurality of antennas corresponding to the smallest distance among the set of distances," as in claims 1 and 11. The Examiner stated that this section describes "communication formed based on signal strength and established distance," at pages 12 and 14 of the Office Action. However, clearly, this section does not mention such thoughts. The Examiner's conclusions from the cited language in Smith are confusing and lack a technical foundation.

Further, the next sections cited by the Examiner within Smith (Figures 7-8, and detailed information at column 12, line 9 to column 13 line 16) discuss that a transmitter diversity assembly transmits bursts of signals during selected time slots defined upon selecting ones of a plurality of carriers. Figure 8 illustrates pairing together of antennas with available carriers shown in Figure 7. When paired together a burst of a communication signal is modulated to be of a frequency to permit its transmission on a selected carrier and the modulated signal is applied to its correspondingly paired antenna. During a first time period, a burst of the communication signal is modulated for transmission upon a first frequency channel from an antenna. At column 12, lines 36-42 and again at lines 58-67, Smith specifically states that selection of subsequent antennas to be used during succeeding time periods to transmit bursts of the communication signal is done by: 1) observing which antennas have been used previously to transmit bursts on

carriers within the coherence bandwidth about the selected carrier, and 2) selecting the antenna element for which the time since its latest use is the longest.

Not only do the sections cited within Smith have nothing to do with selecting one of the antennas corresponding to the smallest distance, as in the present claims, but in fact the sections cited actually teach selecting antennas based on entirely different criteria, namely based on which antenna has been sitting around the longest without being used.

The Examiner has not pointed to any objective teaching within either Rudrapatna or Smith that discusses the claim limitations within claims 1 and 11. The Examiner has taken language within the cited references fully out of context in an attempt to demonstrate that the cited references obviate the present claims. The Examiner is reminded that to establish a *prima facie* case of obviousness under § 103, the cited references must teach or suggest all the claim limitations, and that cited references must be considered in their entirety, as a whole, so as not to take their teachings out of context. (MPEP § 2141.02[VI], 2142).

Since neither Rudrapatna nor Smith, separately or in combination, teach or suggest all claim limitations of claims 1 and 11, the combination of Rudrapatna and Smith does not render the invention recited in claims 1, 3, 5-6, 9-12, 15-16 and 19 obvious.

B. Claims 20-24 and 26-27

Claim 20 has been amended to include the language in claim 25. Claim 20 recites the following which Applicants submit is not taught or suggested by the combination of Rudrapatna and Smith: "selecting one of the plurality of antennas to transmit the wireless signal to the receiver based on geographic proximity of the one of the plurality of antennas to the receiver by: maintaining data relating to a proximity to the receiver for each one of the plurality of antennas, and selecting one of the plurality of antennas having the closest proximity to the receiver."

The Examiner asserted that Rudrapatna in view of Smith teaches all the claim limitations of claim 25 (which has been incorporated into claim 20) and stated that Smith teaches "maintaining data relating to proximity ... (see for example, column 5, lines 28-40, and Figures 7-8, and detailed information, column 12, lines 9-67 continues [sic] to column 13, lines 1-16, selecting an antenna based on proximity to the receiver)." (Office Action, p. 16).

The sections cited by the Examiner within Smith (column 5, lines 28-40) state:

> The diversity antenna assembly provides a multi-antenna assembly. Communication signals are transduced by selected ones of the antennas when connected to transmitter circuitry which generates the communication signals. Switching between selected antennas of the antenna assembly is effectuated quickly and, in one embodiment, switching occurs at baseband frequencies. When used in conjunction with a frequency hopping scheme, selection of the antennas at which the communication signal is transduced is selected, in part, responsive to the frequency of the carrier upon which the communication signal is to be transmitted. Thereby, synergistic benefits of both transmission space diversity and frequency diversity are provided.

As can be seen by reading this paragraph, the section cited by the Examiner in Smith has nothing to do with "maintaining data relating to a proximity to the receiver for each one of the plurality of antennas," and "selecting one of the plurality of antennas having the closest proximity to the receiver," as in claim 20.

Further, the next sections cited by the Examiner within Smith (Figures 7-8, and detailed information at column 12, line 9 to column 13 line 16) are discussed above, and do not mention the cited claim limitations in claim 20 for at least the reasons discussed above.

Since neither Rudrapatna nor Smith, separately or in combination, teach or suggest all claim limitations of claim 20, the combination of Rudrapatna and Smith does not render the invention recited in claims 20-24 and 26-27 obvious.

III. Response to Rejection of Claims 28-29

The Examiner rejected claims 28-29 under 35 U.S.C. 103(a) as being unpatentable over Smith in view of U.S. Patent Application Publication No. 2003/0017835 (Bergel).

Claim 28 has been amended to recite "an antenna database ... containing information of each antenna within a plurality of antennas of an antenna system, wherein the information is stored in the antenna database in categories based on whether the antenna has successfully transmitted wireless signals in the past," "accessing the antenna database to determine selection characteristics of the plurality of antennas including whether the antennas have successfully transmitted wireless signals in the past," and "identifying one of the plurality of antennas to transmit a wireless signal to a receiver based on geographic proximity of the one of the plurality of antennas to the receiver and based on past performances of the plurality of antennas." Applicants submit that this limitation is not taught or suggested by the combination of Smith and Bergel.

As discussed above, Smith teaches selection of antennas to be used to transmit communication signals by: 1) observing which antennas have been used previously to transmit bursts on carriers within the coherence bandwidth about the selected carrier, and 2) selecting the antenna element for which the time since its latest use is the longest. (Figures 7-8, and detailed information at column 12, line 9 to column 13, line 16). Smith does not teach selecting antennas based on past performances of the antennas, or based on a geographic proximity of the antenna to the receiver, as in claim 28.

Bergel was cited by the Examiner for dealing with mobile communication path control by using a set of machine language instructions. Bergel does not teach a set of machine language instructions executable in response to a request from a base transceiver station (BTS) to select

antennas based on past performances of the antennas, or based on a geographic proximity of the antenna to the receiver, as in claim 28.

Since neither Smith nor Bergel, separately or in combination, teach or suggest all claim limitations of claim 28, the combination of Smith and Bergel does not render the invention recited in claims 28-29 obvious.

IV. Response to Rejection of Claim 30

The Examiner rejected claim 30 under 35 U.S.C. 103(a) as being unpatentable over Smith in view of Bergel and further in view of U.S. Patent Application Publication No. 2003/0114193 (Kavak). As discussed above, neither Smith nor Bergel, separately or in combination, teach or suggest all claim limitations of claim 28, and so the combination of Smith and Bergel does not render the invention recited in dependent claim 30 obvious. Kavak was cited for teaching a coaxial cable, an Ethernet cable and a T1 line. Kavak does not make up for the short-comings of the combination of Smith and Bergel.
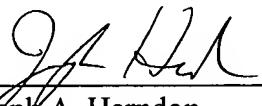
V. Summary

Applicants respectively submit that in view of the remarks above, all of the pending claims are in condition for allowance. Applicants therefore respectfully request such action. The Examiner is invited to call the undersigned at (312) 913-3331 with any questions or comments.

Respectfully submitted,

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Date: ___6/8/09___   By: _____

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